A model for measuring service co-created value

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1. Introduction

1.1 Value co-creation

The concept of value co-creation, in which firms and customers both provide resources and interactively create value, has been recognized in management studies since the 1980s (Toffler, 1980; Norman & Ramirez, 1993). Now, value co-creation is seen as a key business process (Prahalad & Ramaswamy, 2004; Vargo & Lush, 2004, 2008, Lush & Vargo, 2006). Many case studies have focused on successful companies, and research has been done into the structure of value co-creation, but no reliable indicator of value co-creation has yet been created. In this research, we propose a measure of value co-creation that should be useful for guiding long-term business strategy and setting short-term targets.

Service-dominant (S-D) logic (Vargo & Lush, 2004, 2006, 2008) has recently popularized value co-creation. Prior to this, it was common to view goods and services as being sharply delineated. An example is the view of services as IHIP: intangible, heterogeneous, inseparable production and consumption, and perishable. However, the economies of developed countries had already been servitized, meaning that everything is viewed as including a service component,even manufactured products. Then, service researchers developed theories of service that caused a paradigm shift (Lovelock & Gumesson, 2004). The first research on S-D logic was controversial when it was published in 2004.

A service, in the broad sense, is an activity or process that transforms effort, goods, or information into value. As such, there is no difference between services, in the narrow sense, and goods. In S-D logic, resources are categorized as operant or operand according to whether they are used to effect transformation (operant) or are transformed (operand).

S-D logic is predicated upon a set of numbered fundamental premises (FP1-10). FP6 in S-D logic (Vargo & Lush, 2004) asserts that "the customer is always a co-creator of value," and FP9 asserts that "all social and economic actors are resource integrators" (Lush & Vargo, 2006).

In S-D logic, value co-creation is an interactive process that transforms operand resources so as to create value for the company and customer through their mutual exchange of knowledge and skill. All production is co-creation; all value produced is co-created value. Before S-D logic, most research on value co-creation analyzed or classified, on ad hoc basis, cases of business success. In contrast, S-D logic offers a systematic explanation of value co-creation.

However, S-D logic does not offer a concrete methodology for measure it. We need a measure for many

subjects, such as determining the magnitude of value from co-creation activities for companies and stakeholders, measuring co-created value, and determining the kinds of systems that can be used to accelerate value co-creation.

For developing a measure, we have to consider the range, time span, and complexity of real business that make measurement difficult; this difficulty will be discussed later in this paper.

1.2 Measuring co-created value in business

It is important to measure value co-creation, not only for academic research but also for business. In mature economies, value should be understood in terms of long-term collaborative relationships, which is a shift from the short-sighted view of value exchange as buyer-seller relationships. Many research articles indicate that business is moving in this direction. For example, customer relationship management research (e.g., Dholakia, 2001) highlights the importance of long-term customer management, and research on service profit chain theory (Heskett, 1994) demonstrates the virtuous cycle arising from loyalty between a company, its employees, and its customers. In addition,Kotler et al. (2010) have recently advocated the use of cause marketing. Many still view real business, particularly sales, as a zero-sum game, in which companies, employees, and customers all struggle for their share of a fixed amount of value.

Figure 1 shows an example from my previous research. The left-hand graph shows the relationship between customer loyalty and employee loyalty. The right-hand graph shows the relationship between company profits and employee loyalty. The upper graphs display information for management-track employees, and the lower graphs display information about general-track employees. According to service profit chain theory, all these measures should be positively correlated, in which case all curves would trend upward from left to right. However, actual people behave differently in business.

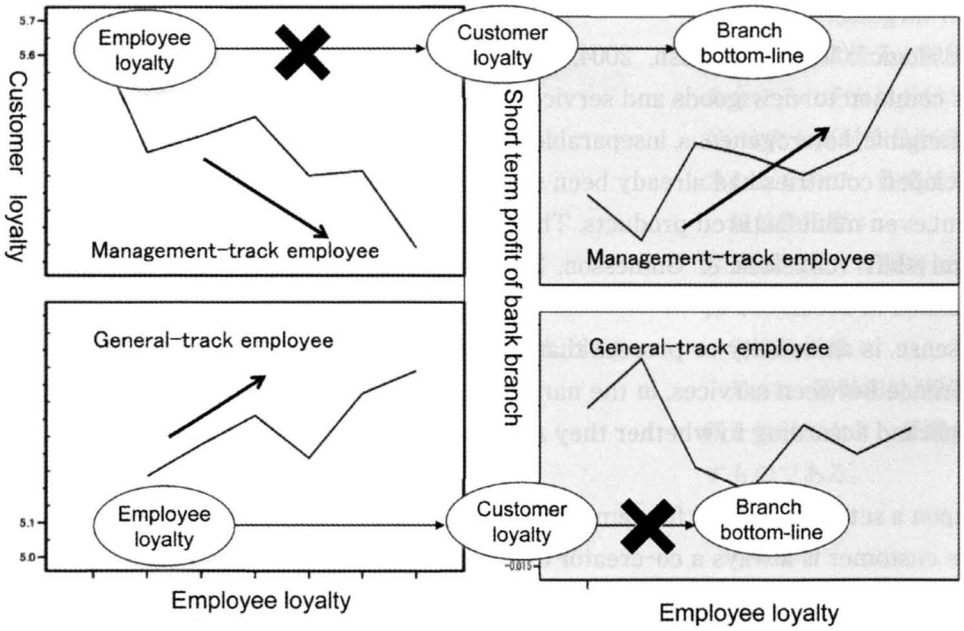

Fig. 1. Relationships between employee loyalty, customer loyalty, and short-term profits

Management-track employees are typically evaluated against short-term sales goals, leading to intensified rivalry between sales representatives. In such a climate, representatives push their customers hard to buy, even to buy unnecessary products and services. This behavior is one explanation for why employee loyalty is negatively correlated with customer loyalty but positively correlated with company revenue. Intuitively, this type of competition should lead to an increase in sales, and it actually does in the short term. However,over the long term, such strategies wear down sales representatives, eventually leading to poor sales results.

In contrast, general-track employees are not motivated to achieve the company's financial goals because

they do not expect rewards for doing so. Instead, customers motivate these employees, so the focus is on making each customer happy. As a result, general-track employee loyalty is positively correlated with customer loyalty but not correlated with company revenue.

Neither case is ideal. Management-track employees' excessive focus on sales goals and general-track employees' indifference arise often in businesses, especially in companies that aim to maximize the value of each exchange. Those companies compete with their customers, so someone must lose. This attitude leads to an unequal distribution of value in the relationship, and the loser will be motivated to rectify this inequality in the future. For management-track employees, customers are the opponent: they might stop using the company or voice negative opinions. For general-track employees, the company is the opponent: it might fire unprofitable employees. This kind of business model is unsustainable.

The best way to maximize long-term value is to find a balance among the interests of the company, those of its employees, and those of its customers (Fig.2) (Bitner, 1993; Gremler etal., 1994). This orientation necessitates a change in strategy. Therefore, we assert that a concrete measure of co-created value is essential to proper allocation and continuing management of company resources.

2. Issues in measuring co-created value

We propose a conceptual model for measuring co-created value and discuss four issues in measurement: (1) limitations of the existing monetary measure, (2) structure of costs and benefits, (3) types of co-created value, (4) short and long spans of measurement, and (5) stakeholders.

2.1 Limitations of existing monetary measure

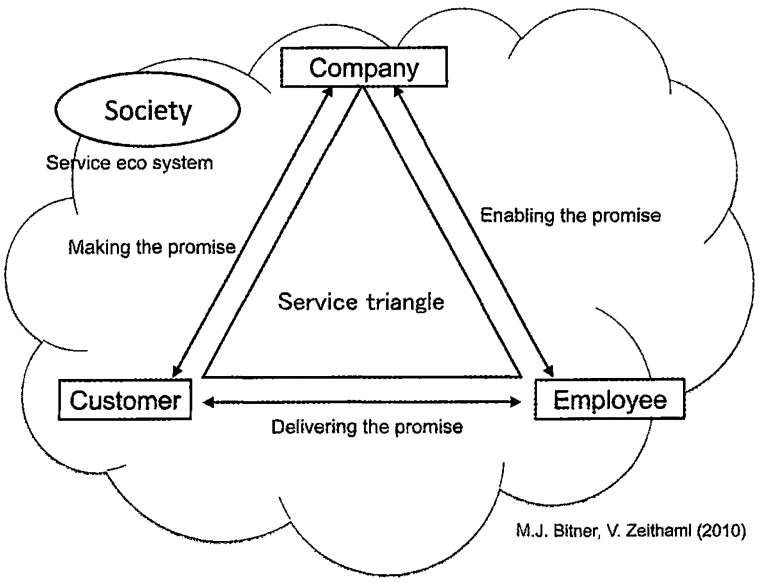

Fig. 2. Service triangle. Figure adapted from Bitner & Zeithaml (2010)

Sometimes companies set a marketing goal of maximizing each customer's lifetime value. Here, lifetime value is the cumulative revenue that a company earns from a customer during that customer's lifetime.

The concept of customer lifetime value is popular among businesses that can track customer transactions on a per-customer basis (Storbacka, 1994) because the company can use transaction data in their customer relationship management system to predict lifetime value. However, predictions of customer lifetime value are known to have limited accuracy. Additionally, by scoring customers on this measure, companies overvalue currently profitable customers and undervalue customers that may become profitable in the future. Many researchers have noted that monetary measures are insufficient. This is why many researchers use non-monetary measures, such as return on equity (Rust et al., 1994) in the marketing field, customer portfolio lifetime value (Johnson & Selnes, 2004), balanced score -card (Caplan & Norton, 1996) in the accounting field (see, e.g., Banker etal., 2000; Rust et al., 1994; Rust et al., 2004).

In S-D logic, emphasis is placed on cognitive value and the effect of this cognition on operant resources through knowledge and skill. To show this contrast, Norman (2001) explains how customer participation patterns have both style and function; participation can be categorized into one of three styles: physical, knowledge-based, or emotional. The importance of emotional participation should increase as an economy develops and matures.

Physical participation is inextricably linked to fundamental value (FV) because such participation effectively creates external employees from customers, thereby allowing the company to reduce costs. In other words, physical participation is co-production.

Knowledge-based participation is the offering or processing of information, skill, and advice; this is similar to knowledge value (KV) in our model. Emotional participation is the offering of emotional energy; this is similar to emotional value (EV) in our model.

One issue with these applying categories is that, owing to technological developments, manufactured products are becoming commodities and therefore have to compete on price instead of on function. In this environment, EV—such as value from design and the feelings inspired by use—becomes more important. In research on consumer behavior, involvement is defined as motivation toward a goal. Involvement has both cognitive and affective dimensions (Park & Mittal, 1985). Cognitive involvement is functional and utilitarian, based on value creation through use of a product or service. Affective involvement is based on emotional motivation; it maintains and reinforces the ego. KV includes both cognitive and affective aspects.

2.2 Cost-benefit structure of value co-creation

In S-D logic, FP6 says that the customer is always a value co-creator, but in reality it is rare that customers spontaneously participate in value co-creation. Customers are usually attracted by existing aspects of a company and decide to join in value co-creation on that basis. This means that S-D logic emphasizes the moment of production-consumption.

In contrast to the focus in S-D logic, Grönroos(2006) divides co-creation into three phases: preparation, exchange, and value co-creation. This division clarifies the difference between exchange value and value in use. The theories agree that the moment of production-consumption is critically important and acknowledge that preparation by suppliers makes this moment valuable.

In the manufacturing industry, the production process is strictly managed during preparation; extensive research has been conducted on this servitization. The purpose of preparation is to increase the value in use, and so service research can be applied to developing cost-effective methods at the cost of some service efficiency during research. However, conducting such research without adopting the service triangle viewpoint is intrinsically opposed to the purpose of value co-creation. Dividing value into benefits and costs is useful to management. Kotler(2001) explains that value is maximized through reducing costs and increasing benefits.

In this research, we take the position that a useful measure should capture both sides of this process. Business strategies should focus on maximizing value co-creation instead of production efficiency. To this end, we propose a framework for equality of value among stakeholders in the service triangle and other stakeholders; this value is based on co-creation. Measurement of value co-creation, including cost reduction and value improvement, is the key feature of this model.

2.3 Types of co-created value

Next, we discuss types of value. Companies typically seek FV, and particularly monetary results. Management tends to want to measure the co-created value in fundamental terms. However, there are forms of

value that cannot be measured as financial results alone. We propose a measure for three types of co-created value: FV, KV, and EV.

In service marketing, measures of customer engagement (Kumar, 2010) that include non-transactional relationships with customers have been proposed. Proponents of such models regard customer engagement as including customer referral value, customer influence value, and customer knowledge value. All these frameworks adopt a company viewpoint on valuation. The most fundamental difference between these frameworks and our concept is that we discuss the value from each stakeholder's viewpoint.

2.3.1 Fundamental value

FV is the value of basic services that companies promise to provide customers before selling. It is an explicit value; in other words, it is a core service, and so it is easily visualized and measured in monetary terms. Companies, employees, and customers each provide FV. Measuring co-created value in fundamental or monetary terms is common for companies because companies are themselves evaluated according to financial results on a quarterly or semi-annual reporting cycle. However, FV should ideally be measured across durations longer than the typical reporting cycle.

2.3.2 Knowledge value

KV is the accumulated knowledge held by co-creators; it contributes to co-created value. (Peter and Olson, 2002) identify two categories of knowledge: process knowledge and declared knowledge. Process knowledge is related to the service production process. Declared knowledge is related to events (episodic knowledge) and concepts (conceptual knowledge). Episodic knowledge is gained through experience. Conceptual knowledge is more general and factual, such as "brand A has feature B."

In the context of consumer behavior research, these types of knowledge represent consumer knowledge. When viewed within the service triangle framework, however, knowledge encompasses stakeholder knowledge about other stakeholders. As a company gains more knowledge about its customer demographics, transactions, and other operant resources, it becomes able to design and offer better co-production processes to them. Similarly, as a company gains knowledge about its employees, the company can offer more to the co-creation process and service, such as by assigning appropriate tasks to employees and matching them with compatible customers.

2.3.3 Emotional value

Emotion has both positive and negative dimensions (Watson & Tellegen, 1985; Bagozzi et al., 1999, 2002). EV increases with stronger positive emotions and decreases with stronger negative emotions among participants in the service triangle.

In Plutchik(2002), eight types of emotion are identified: fear, anger, delight, sadness, acceptance, dislike, expectation, and surprise. In Richins (1997), the set of emotions is identified as fear, dissatisfaction, anxiety, sadness, fear, shame, envy, optimism, delight, excitement, and surprise.

Surveys can be used to identify customer and employee feelings because the emotions connected to services depend strongly on the quality of services. In this research, EV is not assigned to companies. As a consequence, our model assigns EV in the following relations: customer to company, employee to company, employee to customer, and customer to employee. We include short-term emotions, such as excitement and delight, in the relationship between employees and customers. Long-term emotions, such as trust, are modeled on the customer–company and employee–company relationships.

2.4 Short and long time span

Companies often consider their customers as equivalent to the amount of money they will contribute to the company during their lifetimes. However, it is reasonable to assume that some value will be realized monetarily in the short term, some will be realized in the long term, and some will never be realized.

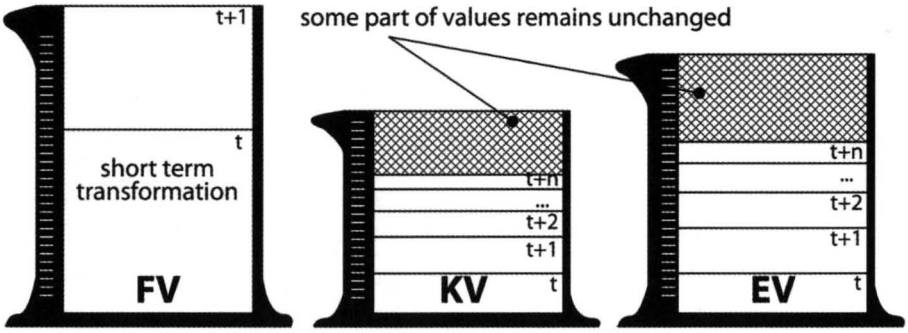

Fig. 3. Value created in term one

If a company thinks a customer is unprofitable simply because short-term profit from that customer is low, that thinking could mislead the company. As shown in Fig. 3, FV can be realized as money in the short term, such as terms one and two. In contrast, KV and EV require more time to be realized as money. Moreover, some parts of KV and EV will remain as they are. Even though these parts have not been transformed into money, they should still be included as part of the true customer lifetime value.

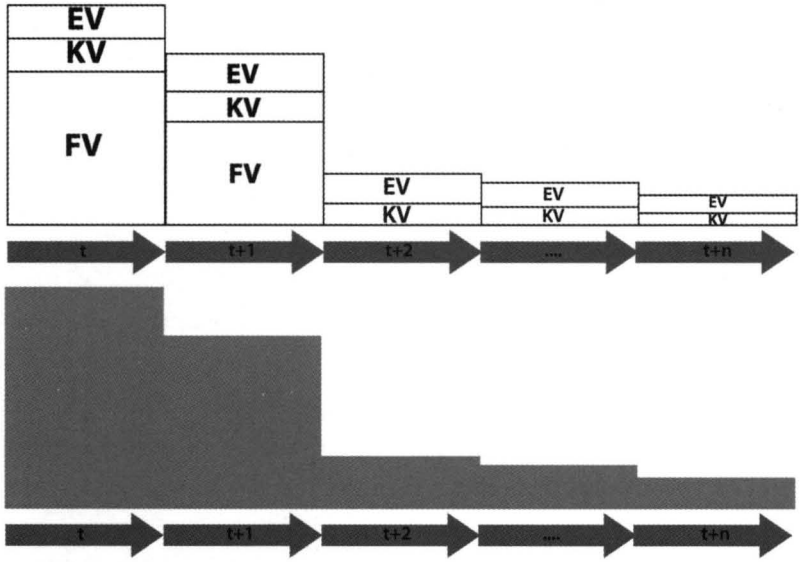

Fig. 4. Value is monetarily realized during successive terms

The gray part of the diagram in Fig. 4 shows a customer's monetary contribution to the company. Typically, companies tend to focus on this part only. However, this is not the whole value of the customer. Non-monetary value is not easily visualized, but it is still important. Companies should measure all the types of value.

Figure 4 shows the long-term value and monetary transformation that is created in the first term. The same thing will continuously occur in the second and third terms and in the terms that follow, as shown in Fig.5.

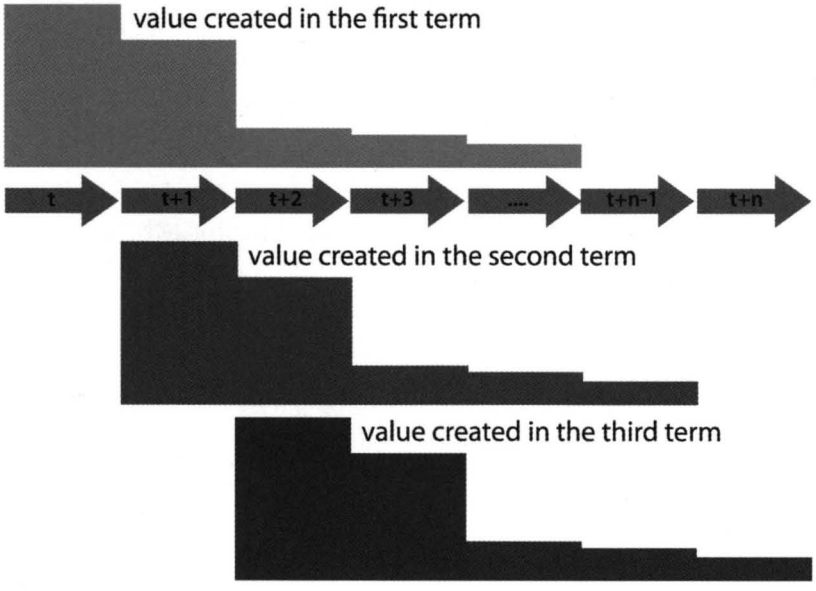

Fig. 5. Continuity of value transformation to money

2.5 Stakeholders

We next define the scope of inclusion for stakeholders. Face-to-face interaction is the archetypal service encounter, and customer satisfaction in this case depends on employee satisfaction; this is the main activity of value co-creation. Researchers have studied this theme repeatedly in various contexts, such as customer participation in service encounters (Bitner, 1993;Gremler, 1994), human aspects of service, and the service landscape (Schneider et al., 1985, 1998; Hartline et al., 2000).

However, because the entirety of production activity is value co-creation, focusing on direct interactions between suppliers and receivers is too limited. An analysis in Bitner et al. (2002) shows an expanded service triangle model. In this model, external marketing makes a value proposition from the company to the customer, internal marketing effects this proposition, and interactive marketing is the offering of this value. The company is a primary actor and should not be neglected; it promises and realizes co-created value. In addition, society strongly expects companies to meet their social responsibilities (Lee & Kotler, 2009). The marketing 3.0 paradigms posits that the economy has matured in developed countries and that, in order to address the worldwide gap between rich and poor, companies need strategies to satisfy high-end customers' social consciousness while simultaneously increasing the buying power of low-end customers. This means that there are many stakeholders outside the service triangle, and these stakeholders affect the primary stakeholders. These stakeholders include judiciaries, suppliers, and local communities. They, too, can be regarded as value co-creators.

3. Proposed model

3.1 Structure of the value co-creation model

We propose a model with three dimensions; this is shown in Fig.6. This model is applied to a company, its employees, and its customers and society.

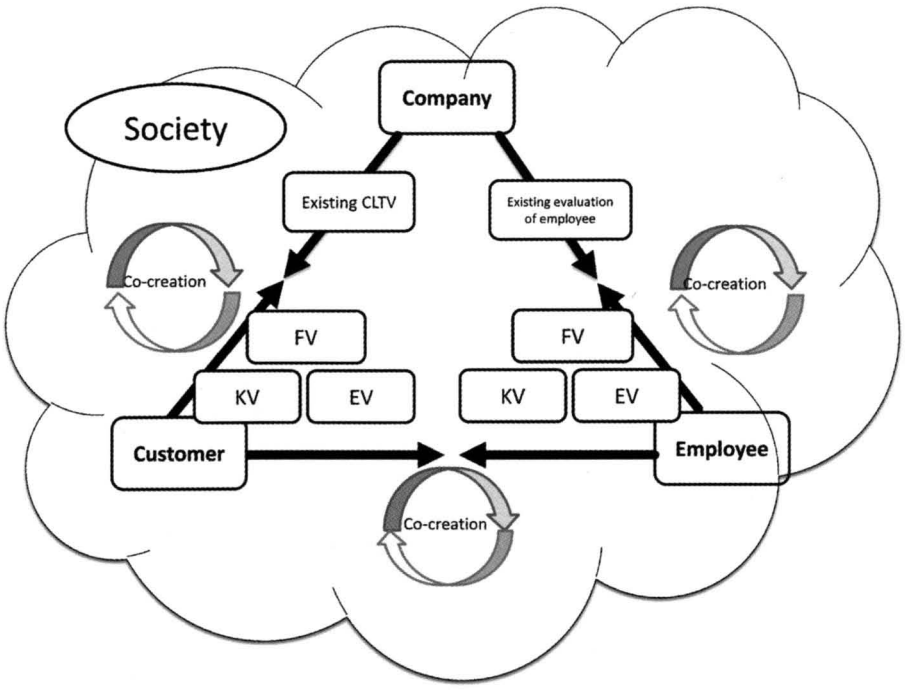

Fig.6. Proposed model of value co-creation among stakeholders

In our model, the measure is composed of three different types of value (FV, KV, and EV). Because of these three types of value, we have titled our model the "FKE-value model." FV is an important part of value co-creation, but not the entirety of it. We proposed supplementing FV with KV and EV. Both KV and EV increase during interactions between provider and receiver. KV is the cognitive value associated with the knowledge and skill that accrues to each customer, company, and employee. EV is the affective value associated with customer and employee moods and percep-

tions. These types of co-created value act as resources during future cycles of co-creation and eventually generate FV. The duration over which KV and EV become fundamental value varies and is uncertain; in some cases, they might never be converted to FV.

We will be able to shed light on interactions between customer and company, customer and employee, and company and employee, as well as the interactions with society. As described on the diagram, these types of value will be created on each interaction between stakeholders.

Our model has four features. The first feature is that it includes three primary stakeholders plus society. Second is that co-created value is characterized by three different types of value: FV, KV, and EV. Third is that these types of value should be measured from a long-term perspective. Fourth is that the key is to maintain a balance between these stakeholders.

3.2 Example

To give a more concrete example, we analyzed three financial institutions and their business customers, who had taken out business loans from these institutions.

Company revenues and costs can be viewed in terms of the three types of co-created value. The benefit of increasing value and decreasing cost is obvious when considering FV. In terms of the increase in FV, customers use the borrowed money to increase sales and revenue, which are easily measured as money. To decrease losses in FV, discounts on loan interest rates and transaction fees offer short-term cost reductions; for long-term cost reduction, the credibility of a company will increase with its borrowing history. The important thing is that the positive effects of this FV on the company lead to greater assets (and thus safer lending) from the bank's point of view. This is beneficial for both sides and creates a virtuous cycle.

KV accelerates value co-creation and decreases the associated cost because it reduces the time and effort by both customers and employees,who can then use those resources productively. For customers, understanding the typical transaction procedures, products features, and necessary documents for dealings with the bank is likely to reduce customers' cognitive and time costs. Business-related information about the region, gathered by the bank,will be useful for expanding customers' businesses as well. For employees, sharing the knowledge of their own products, customers' business-related information (such as billing cycles and industry trends) helps in providing high-quality service.

Increases in EV represent increases in positive emotions (or decreases in negative emotions), and decreases in EV represent decreases in positive emotions (or increases in negative emotions). Short-term emotions tend to occur between customers and employees during communication in service encounters; these emotions can include delight, cheer, and sympathy. Long-term emotions tend to occur between customers and the bank, such as trust, safety, and pride. One example of trust is a business's belief that its bank will help the company through tough times. When customers recognize their mainbank's contributions to the local community, they feel proud. As an example of decreased emotional costs, there is the positive feeling of fulfilling obligations, such as continuing a relationship with a bank that was supportive when the company was starting up.

4. Conclusion

We discussed a model for co-created value and its measurement, issues in measurement, and practical effects; after this, we proposed a balance-based value co-creation model.

We discuss four issues in measurement: (1) limitations of the existing monetary measure, (2) structure of costs and benefits (increasing value or decreasing cost), (3) three basic types of co-created value, (4) short and

long spans of measurement, and (5) four stakeholders (company, employee, customer, society) and four associated interactions (company-employee, company-customer, customer-employee, and interactions with society).

The primary limitation of this paper is that the model is conceptual; quantitative verification would improve the model. We are now conducting surveys and collecting data to test the model for validity and reliability. We also plan to do further research into how companies maintain balance among stakeholders and accelerate value co-creation.

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